ORIGINAL

Comments of the Society of Broadcast Engineers, Inc.

CS Docket 99-250
Private Cable Operators Eligibility to the 13 GHz CARS Band

August 16, 1999

SOCIETY OF BROADCAST ENGINEERS, INC.
Indianapolis, Indiana

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Eligibility Requirements in Part 78	)	CS Docket No. 99-250
Regarding 12 GHz Cable Television	)	
Relay Service	)	
	)	
	)	

To: *The Commission*

Comments of the Society of Broadcast Engineers, Inc.

The Society of Broadcast Engineers, Incorporated (SBE), the national association of broadcast engineers and technical communications professionals, with more than 5,000 *members in the United States, hereby respectfully submits its comments in the above-*captioned Notice of Proposed Rulemaking ("NPRM") relating to liberalized eligibility to the 13 GHz[1] Cable Television Relay Service ("CARS") band.[2]

I. Broadcasters' Concerns Have Proved All Too Accurate

1. SBE is chagrined to read, at Paragraph 2 of the NPRM, that television broadcasters *"also" use 12.7–13.2 GHz, for both fixed and short-range mobile communications.* Broadcasters have used this band for years before cable was allowed into the 12.70–12.95 GHz portion in 1965, then to 12.7–13.2 GHz in 1979, by Docket 21505. Concern was *expressed by broadcasters in filings to Docket 21505 that cable was quite capable of taking* over the entire band, but were discounted by the Commission. Now that concern has proved all too accurate.

2. Broadcasters use these frequencies as discussed, and also sometimes direct from vehicle to fixed receive/relay point, depending on the geometry of the market. Broadcasters do not use the 13 GHz TV Broadcast Auxiliary Services ("BAS") band as much as they could otherwise due to the difficulties of coordinating around the many CARS links that have been

[1] *Since the band edges are 12.7 and 13.2 GHz, SBE notes that it is more accurate to refer to this spectrum as* the 13 GHz CARS band rather than the 12 GHz CARS band.

[2] *The acronym CARS refers to the former title for cable television systems use of the 13 GHz TV BAS band,* "Community Antenna Relay Service." The Commission has chosen to retain the original acronym.

established. This rulemaking now threatens to let the entire camel into the BAS tent; for this reason, SBE opposes the proposed eligibility expansion.

3. Paragraphs 4 and 8 of the NPRM lay out part of the problem, but ignore significant important issues. Paragraph 4 states that "One of the Commission's most important goals is to promote and facilitate competition in the video distribution market..." but this ignores that, in the process of facilitating distribution, it is necessary to not disrupt production, or there will be little of any value to distribute. Paragraph 8 addresses the reason for broadcasters' special concern: the Commission notes that Optel Inc. ("Optel"), the petitioner triggering this NPRM, also requests 13.20–13.25 GHz, which is now available only to TV BAS operations. Further, 13.15–13.20 GHz is reserved for TV Pickup and CARS Pickup mobile stations only within a 50-kilometer radius of the top one hundred TV markets [Section 74.602(a), Note 2 and Section 78.18(l)]. Therefore, this portion of the 13 GHz TV BAS/CARS band is not available for fixed links in the most populous areas. The NPRM asks for comment on "any existing or future impact this sharing may have with BAS, especially as it relates to the required digital transition for broadcasters." This question is easily, and painfully, answered. There are only four frequency bands in which mobile, *i.e.*, production, operations may be routinely done, at 2, 2.5, 7 and 13 GHz (at 38 GHz path lengths are too short for most uses, and that spectrum is being auctioned to others, leaving broadcasters as secondary users).

4. SBE notes that most BAS mobile operations involve news and sports, which in turn involve two distinctly different kinds of concerns. News is quite immediate, and, except for such major events as political conventions, inaugurations, and celebrity (*e.g.*, Papal) visits, is not capable of being planned in advance. Also, extreme picture quality is generally either not available or not needed, due to the exigencies of covering the story or due to the sufficiency of information which can be obtained by just having a camera present. Sporting events, on the other hand, generally are well planned in advance, and tend to require excellent picture quality due to the distance of the cameras from the event and the necessity for generally simultaneously watching much of a venue since action may move quickly. Where fixed cameras can use cable or fiber, clearly there is no RF issue. But much of both the closest views of the action and the distant overviews (as from the air) tend to require RF because no cabling is possible.

5. Broadcasters' access to the 2.5 GHz band is secondary to Part 18 Industrial, Scientific and Medical ("ISM"), and is often disrupted by interference from these devices.

Broadcasters have done such a good job at on-the-fly, real-time, frequency coordination and sharing of spectrum that they have ironically been rewarded by having part of the 2 GHz band proposed to be re-allocated for other uses, and may be required to further tighten their electronic news gathering ("ENG") belt to survive in the remaining spectrum.[3] Years ago, broadcasters voluntarily moved most fixed 2 GHz band links into the 7 and 13 GHz TV BAS bands, so as to clear the 2 GHz TV BAS band, with its superior propagation characteristics, for non-engineered, mobile paths (*i.e.*, ENG). But the planned narrowing of the 2 GHz TV BAS band channels, while likely workable for the quality of pictures acceptable for news, is expected to be disastrous for sports as high-definition television ("HDTV") approaches. Indeed, some parties speak of digital TV as though the compressed 7 to 8 Mbps pictures currently being experimented with for ENG were perfectly sufficient. It is necessary to remind those parties that the required data rate for 1080I30 or 720P60 greatly exceeds the required rate for National Television System Committee ("NTSC"), which is only 480I30. Furthermore, the contribution quality data rate required from the camera is much greater than the compressed data rate which can be distributed to the consumer, after all production steps have been accomplished. Indeed, considering that the actual display data rate is in the 1 to 1.5 Gigabit per second range (0.885 Gbps for 720P video only, 0.996 Gbps for 1080I video only, 1.5 Gbps including audio, timing, error correction, *etc.*) in an HDTV picture, and that the fully compressed Advanced Television Systems Committee ("ATSC") distribution bitstream is only around 20 Mbps, it is not surprising that the current contribution quality signal runs in the 300 Mbps range, which broadcasters hope, but do not guarantee, to get down into the 100 Mbps range. There is very little or no hope of getting that kind of data rate into narrow channels at 2 GHz. It will be difficult enough to get anywhere near that bitrate, robustly, into the wider channels available to BAS at 7 and 13 GHz. But it will be necessary to do so, or HDTV pictures from the field will suffer.

6. This will have a direct impact on whether the American public will ever accept digital television ("DTV") enough to purchase the replacement viewing equipment to allow the present NTSC transmissions to be turned off and that spectrum returned to the FCC. It must be stressed that this is not a matter that broadcasters can influence, other than by presenting the best pictures broadcasters possibly can as a sales tool and incentive. Absent a federal

[3] Indeed, the International Bureau ("IB") of the FCC has become such an advocate for the Mobile Satellite Services ("MSS") that it has inappropriately issued a rulemaking, IB Docket 99-81, proposing to establish service rules for 2 GHz MSS, when the enabling rulemaking, Office of Engineering and Technology ("ET") Docket 95-18, is still pending. Further, if MSS proves unable, or unwilling, to fund all reasonable and prudent relocation costs for incumbent BAS licensees, as so clearly affirmed under the Emerging Technologies policy, then 2 GHz MSS may never come to pass in the United States.

order forcing the public to replace or dispose of all NTSC television receivers (an unlikely occurance, given the political consequences such an order would trigger), the public will make its choice. And all the spectrum issues deriving from DTV, such as repacking the television spectrum to free up additional channels for auction, depend on removing the present taboo-ridden TV receivers from the marketplace. In short, mess up sports coverage by making RF channels unavailable for RF camera shots, and face the likelihood of consumers messing up all of the Commission's plans by refusing to spend their dollars on new television receivers.

II. Optel's Vision is Unwarranted

7. Paragraphs 8 and 10 of the NPRM clearly indicate Optel's plans for the 13 GHz TV BAS band: they want it all. Paragraph 10 speaks of "up to 82 channels if the CARS band includes 13.20–13.25 GHz." It is hard enough now to work around CARS while living in an NTSC world, in which the 2 GHz TV BAS band channels have not yet been narrowed, and in which most of the news and sports production both still occur at 2 GHz. SBE wonders what will fill 82 channels of programming with sports production disrupted: old movies?

8. Optel's request for Private Cable Operators ("PCO") access to the 13 GHz TV BAS band is unwarranted. As noted at Paragraph 16 of the NPRM, conventional (franchised) cable systems that are currently eligible for CARS frequencies are generally required to provide service to an entire community; *i.e.*, both low-income as well as lucrative high-income areas. Television stations that are eligible for TV BAS frequencies are similarly burdened by a plethora of public interest obligations such as restrictions on where their studios can be located, how much children's programming and commercial time is allowed, *etc.* In contrast, PCOs are free to cherry-pick the areas they wish to serve, and, as a relayer of programming created by others, doesn't have to worry about public affairs programming obligations and the like. For this reason, SBE believes that PCOs should not be entitled to eligibility to the 13 GHz CARS band. If the Commission nevertheless concludes that PCOs should be granted eligibility to the CARS band, then it must be on a secondary basis to conventional (and much more heavily regulated) cable systems and TV BAS licensees. To do otherwise would give PCOs a "free ride," and such a slanted playing field would clearly not be in the public interest.

III. Flawed Solutions

9. Paragraph 21 of the NPRM discusses possible solutions to Optel's request. SBE notes that cable distribution, whether "wireless" or not, is a fixed service. It is therefore possible for PCOs to use "other alternatives, such as 23 GHz, or use of fiber optic cable," to obtain

larger capacity. These solutions, regardless of how much they cost and regardless of how much PCOs would like to use 13 GHz spectrum, are neverthless available to them. They are not available for a mobile service.

10. Paragraph 24 of the NPRM goes even further towards disrupting mobile production services by proposing that the band be auctioned. This is simply not viable for a service that needs numbers of channels at once for, say, the Kentucky Derby, or the Superbowl, and for one day, and then moves elsewhere. Sports gathering has worked so well to date because the sports events are largely on weekends while mobile news operations are mostly on weekdays, allowing time sharing. This is disrupted as soon as HDTV quality is required for sports, and unavailable for news channels. But sharing is still the rule among itinerant productions that go where the events are. Auctioning the band will simply force an end to those productions, which are carried by broadcast and on cable and wireless cable distribution networks alike. A show that cannot be produced cannot be distributed.

11. Paragraph 25 of the NPRM continues this misplacement of emphasis. In an attempt to retain the 13 GHz band for video uses, as opposed to non-video uses that can be carried in other spectrum, the Commission ignores the need for the production of video programming in the first place. Distribution already has numerous options that are not available to production. SBE vehemently disagrees that the principal use of the 13 GHz band will necessarily be for distribution in an HDTV world. How much will be needed for production we don't really know yet. HDTV is still in the process of being invented, regardless of what some non-technically inclined persons may wish to believe. There are many things broadcasters don't know how to do yet, because they haven't been tried. As they are tried, broadcasters learn. And broadcasters are learning fast, considering that HDTV broadcasts first went on the air last November. Between now and 2003, certainly 2006, broadcasters must learn a great deal, unless operations are made impossible by lack of spectrum.

IV. Incomplete Initial Regulatory Flexibility Analysis

12. SBE notes that the analysis of the impact on small entities is defective because the needs of TV broadcasters and Local Television Transmission Service ("LTTS") providers for production spectrum is not even mentioned.

V. Summary

13. Regardless of the merits of this proposal in supporting competition in video distribution, it is imperative that, at the least, no further action be taken on this proposal to disrupt

production until such time as its impacts on the needs of HDTV have been evaluated. This means that sufficient HDTV live field production must first occur, so as to determine what the real needs are, in order to ensure that there may continue to be sufficient video events produced to warrant carriage by cable systems and PCOs.

14. In the event that the Commission nevertheless believes that it must rush to judgment, and risk the future of HDTV, then the Commission must at least recognize its obligations to broadcasters (and the relatively few cable television remote program producers) by crafting priority-of-service rules, which will permit the continued operation of mobile pickups, rather than adopting auction rules, which would disenfranchise mobile production operations almost completely.

Respectfully submitted,

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